

Work Order ID 77375

77375

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December-06-11 1:14:34 PM

Item ID: D3391-025 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Aft Tube Assembly
 Start Date: 06/12/2011 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 13/12/2011 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: M.C.J Date: 11/12/06 Tooling: Date: Run Start ***NR1***
 QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D3391	I

100	MORI SEIKI CNC LATHE LARGE	0.00
-----	----------------------------	------

100
 Mori Seiki
 Mori Seiki CNC Lathe Large
 Memo
 Turn as per Folio FA599 Rev: H & Dwg D3391 Rev: I
 scribe batch # on fwd end at 90 degree

110	QC2- Inspect parts off machine FAI/FAIB	0.00
-----	---	------

110
 QC
 Quality Control
 Memo
 0.00

111	QC8- Inspect parts - second check	0.00
-----	-----------------------------------	------

111
 QC
 Quality Control
 Memo
 INSPECT INSIDE BORE
 0.00

1 Ø
 man.L 11/12/08

1 Ø
 man.L 11/12/08

1 Ø
 man.L 11/12/11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	HAAS CNC VERTICAL MACHINING #1	0.00							
120									
HAAS 1	Memo	0.00							
HAAS CNC vertical machine #1	1-Machine as per Folio FA 599 Rev: <u>AA</u> & Dwg D3391 Rev: <u>E</u> 2-Deburr								
130	QC2- Inspect parts off machine FAI/FAIB	0.00							
130									
QC	Memo	0.00							
Quality Control									
140	QC8- Inspect parts - second check	0.00							
140									
QC	Memo	0.00							
Quality Control	***INSPECT INSIDE BORE***								

W/O:		WORK ORDER CHANGES					
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N900040100

Setup Start *NS1*

Stop ***NS2***

Customer:

Run Start *NR1*

Stop *NR2*

NR2

0.00

0.00

1-Drill (PILOT HOLE) aft cap holes per Dwg D3391 using DT8803

0.00

0.00

Form as per Dwg D3391 Using Bend Prog 3391025

QC5- Inspect part completeness to step on W/O	0.00
---	------

0.00

Quality Control

1 SAO #12-01-02

1 SAG 12-01-02

NP 12-1-2

Dart Aerospace Ltd

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QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	Skidtubes	0.00							
180									
Skidtubes	Memo	0.00							
Skidtubes	1-Open Aft cap pilot hole to .208" as per Dwg D3391								
	2-Drill float bag holes using DT8809 as per Dwg D3391 (Holes marked "A" Only.								
	3-Drill wearplate holes as per Dwg D3391 using DT8878 (Mid Tube) & DT8217 Wearplate Jig. *****Do Not Open To Finished Size*****								
	4-Drill Wearshoe holes as per DWG D3391 using DT8939 locating from 2 previously drilled aft wearplate holes.								
	5-Open wearplate holes to 0.250" and c'bore as per dwg D3391								
	6-Open up all wearshoe, wearplate to 0.297" and float bag holes to 0.328" as per Dwg D3391.								
	7-Deburr								

Handwritten note: 12-Dec-03

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Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 06/12/2011 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 13/12/2011 **Req'd Qty:** 1.00 *** 1 ***

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Operation Description

Set Up/ Run Hours

Tool ID

Tool #

**Plan
Code**

**Accept
Qty**

Reject
Qty

Reject Number

**Insp.
Stamp**

QC5- Inspect part completeness to step on W/O

0.00

190

0.00

QC

Memo

Quality Control

Chemical Conversion Coat per QSI005 4.1

0.00

200

0.00

HandFinish

Memo

Hand Finishing

QC3- Inspect Part Finish

0.00

210

0.00

QC

Memo

Quality Control

Dart Aerospace Ltd

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220		0.00							
220	Skidtubes								
Skidtubes	Memo	0.00							
Skidtubes	Instal spacers as per dwg D3391 A/R Magnabond 6398 Batch: <u>112830</u> exp. date: <u>12-06</u> cure time 12hrs as per QSI0015								
230	QC5- Inspect part completeness to step on W/O	0.00							
230									
QC	Memo	0.00							
Quality Control									
235	Pressure Wash per QSI005 4.3	0.00							
235									
HandFinish	Memo	0.00							
Hand Finishing	AND REALODINE AS PER PAR09-043								

85 12 01-06

W 12 01-09 (1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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N900040100

Setup Start *NS1*

Stop *NS2*

Cust Item ID:

Customer:

Reference:

Run Start *NR1*

Stop ***NR2***

**Insp.
Stamp**

0.00

Memo

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

0.00

Memo

Memo	0.00
-------------	------

0.00

Memo

1-Install inserts as per Dwg D3391

2-Install Aft Cap as per Dwg D3391

A/R Sikaflex-241/-291 AA 119 500

Sikaflex expiry date: 12/09

3- INSTALL WEARPLATES AS PER DWG

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

270	QC5- Inspect part completeness to step on W/O	0.00							
270									
QC	Memo	0.00							
Quality Control									

280	Identify as per dwg & Stock Location: <u>wlo</u>	0.00							
280									
Packaging	Memo	0.00							
Packaging									

290	QC21- Final Inspection - Work Order Release	0.00							
290									
QC	Memo	0.00							
Quality Control									

12/11/12 *[Signature]*
 mf
 12-01-11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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D3391-025

Required Date: 13/12/2011

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

1

B77435 (x1) Ml 12/01/10

Loc Code

1

1

1376538 (x1) 1210110

Loc Code

3

1

Loc Code

12

mm. l 2/12/06

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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Picklist Print

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Page 2

Work Order ID: 77375

77375

Parent Item: D3391-025

D3391-025

Parent Item Name: Aft Tube Assembly

Start Date: 06/12/2011

Required Date: 13/12/2011

Start Qty: 1.00

Required Qty: 1.00

D3670-4-200

Manufactured No

230

Each

63.0000

4

4

D3670-4-200

SPACER

**

Handwritten: 12-01-05

Location

Loc Qty

Loc Code

LG001

63

72851

63

D2646

Manufactured No

270

Each

207.0000

1

1

D2646

Aft Cap

**

Handwritten: 12/01/10

Location

Loc Qty

Loc Code

FP002

190

73294

2

73825

188

FP004

8

68280

5

70945

1

71070

2

FP005

4

71038

4

FP006

5

62678

5

D3672-1

Manufactured No

270

Each

1,178.000

2

2

D3672-1

Phenolic Washer

**

Handwritten: 12/01/10

Location

Loc Qty

Loc Code

FP

414

66821

414

ST074

764

72229

264

76277

500

December-06-11 1:14:39 PM

Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Picklist Print

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Page 3

Work Order ID: 77375

77375

Parent Item: D3391-025

D3391-025

Parent Item Name: Aft Tube Assembly

Start Date: 06/12/2011

Required Date: 13/12/2011

Start Qty: 1.00

Required Qty: 1.00

ALS4-1032-130

Purchased

No

260

Each

2,176.000

14

14

AI S4-1032-130

Insert

**

12/06/10

Location

Loc Qty

Loc Code

ST280

1976

119084

1976

ST281

200

119632

200

ALS4-1032-225

Purchased

No

270

Each

1,724.000

8

AI S4-1032-225

Insert

**

12/10/10

Location

Loc Qty

Loc Code

ST281

1724

108696

199

110768

62

118386

858

118966

605

AN3C4A

Purchased

No

270

Each

2,382.000

6

AN3C4A

BOLT

**

12/06/10

Location

Loc Qty

Loc Code

ST350

2382

117313

2

117688

5

117872

10

118112

16

118451

2

118838

826

119328

521

119749

1000

W/O:		WORK ORDER CHANGES					
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Parent Item: D3391-025

D3391-025

Parent Item Name: Aft Tube Assembly

Start Date: 06/12/2011

Required Date: 13/12/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C5A

Purchased

No

270

Each

1,278.000

4

4

AN3C5A

Bolt

**

4 12/01/10

LocationLoc QtyLoc Code

FP

7

115835

7

ST350

1271

116419

28

117343

17

117764

49

117872

2

118451

175

119127

500

119749

500

4

AN960C10L

NAS1149C0332

Purchased

No

270

Each

0.0000

10

10

*AN960C10I *

washer

**

11 119736 (x10) 12/01/10

Dart Aerospace Ltd

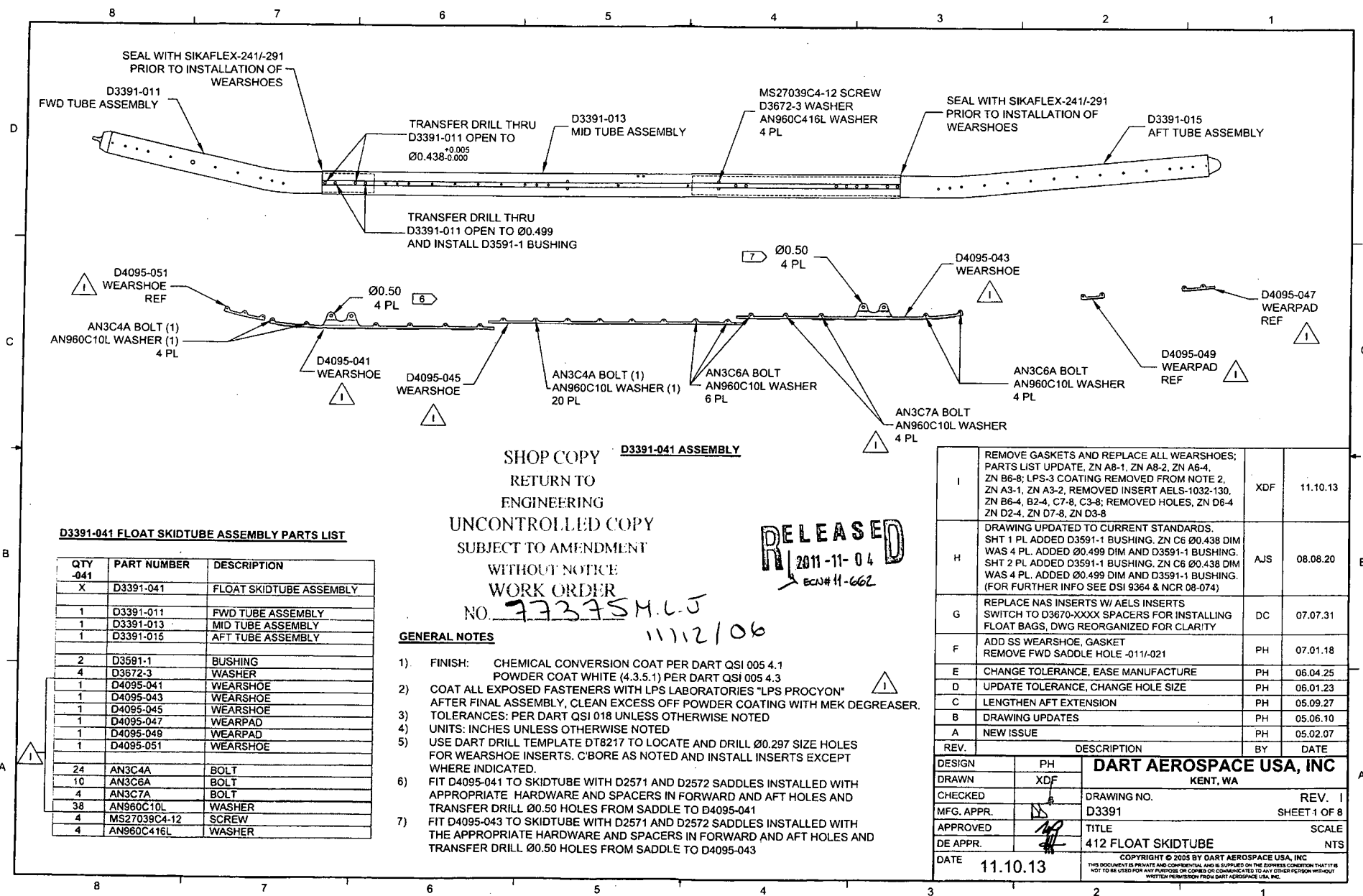
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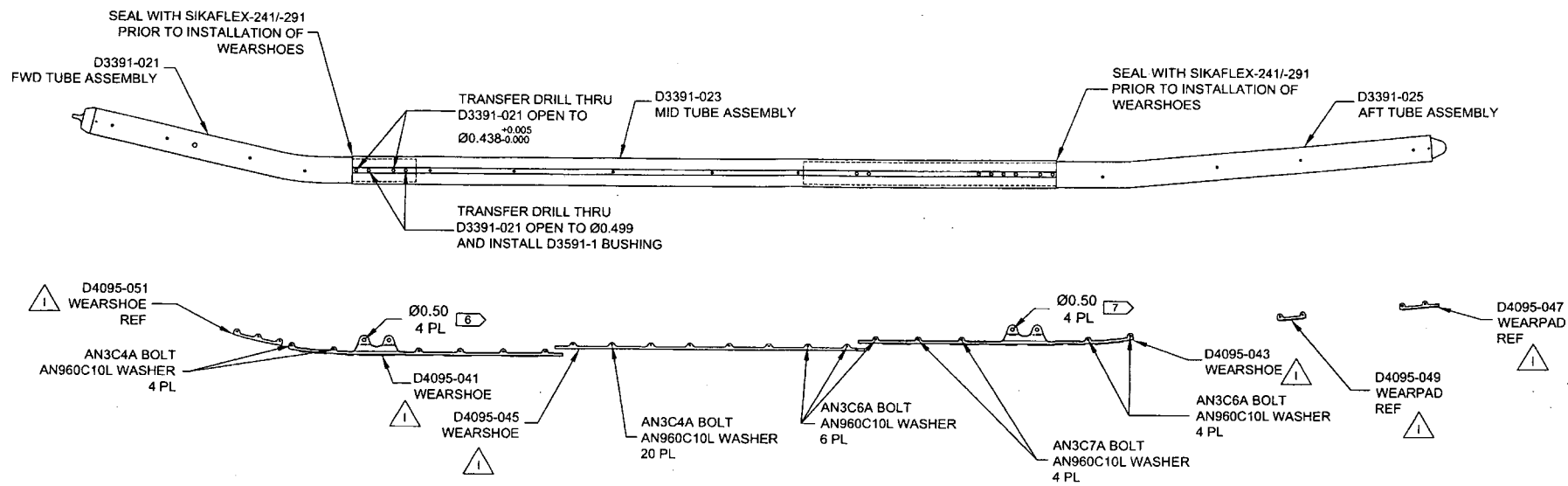
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D3391-043 ASSEMBLY

D3391-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
X	D3391-043	FLOAT SKIDTUBE ASSEMBLY
1	D3391-021	FWD TUBE ASSEMBLY
1	D3391-023	MID TUBE ASSEMBLY
1	D3391-025	AFT TUBE ASSEMBLY
2	D3591-1	BUSHING
1	D4095-041	WEARSHOE
1	D4095-043	WEARSHOE
1	D4095-045	WEARSHOE
1	D4095-047	WEARPAD
1	D4095-049	WEARPAD
1	D4095-051	WEARSHOE
24	AN3C4A	BOLT
10	AN3C6A	BOLT
4	AN3C7A	BOLT
38	AN960C10L	WASHER

GENERAL NOTES

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.
- 6) FIT D4095-041 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-041
- 7) FIT D4095-043 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH THE APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-043

RELEASED
2011-11-04

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	XDF	KENT, WA	
CHECKED		DRAWING NO.	REV. 1
MFG. APPR.		D3391	SHEET 2 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	11.10.13	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

Dart Aerospace Ltd

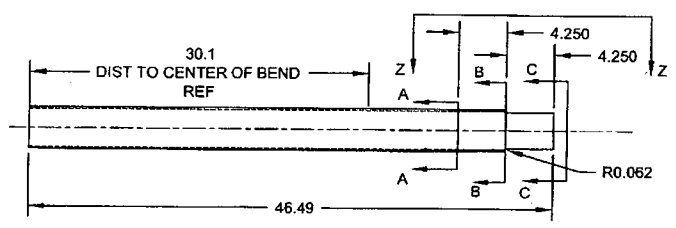
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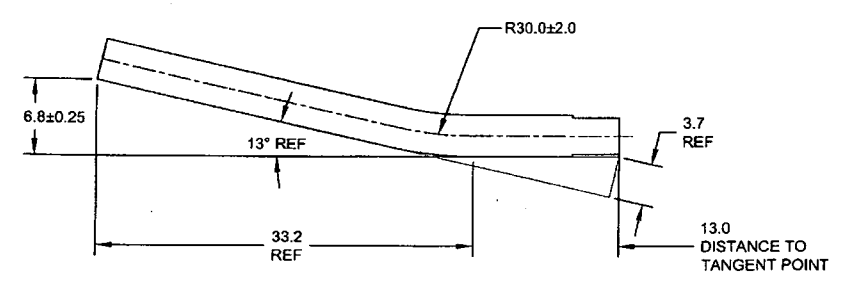
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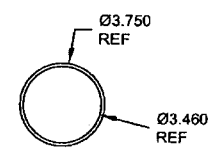
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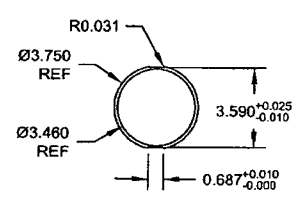
D3391-1 CUTTING DETAIL
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



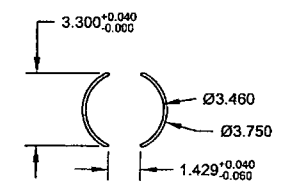
D3391-011/-021 BENDING DETAIL
(MAKE FROM D3391-1)



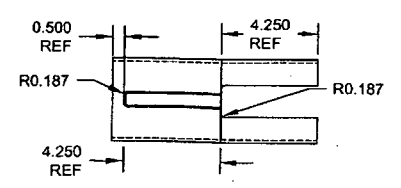
SECTION A-A
SCALE 2X



SECTION B-B
SCALE 2X



SECTION C-C
SCALE 2X



VIEW Z-Z
SCALE 2X

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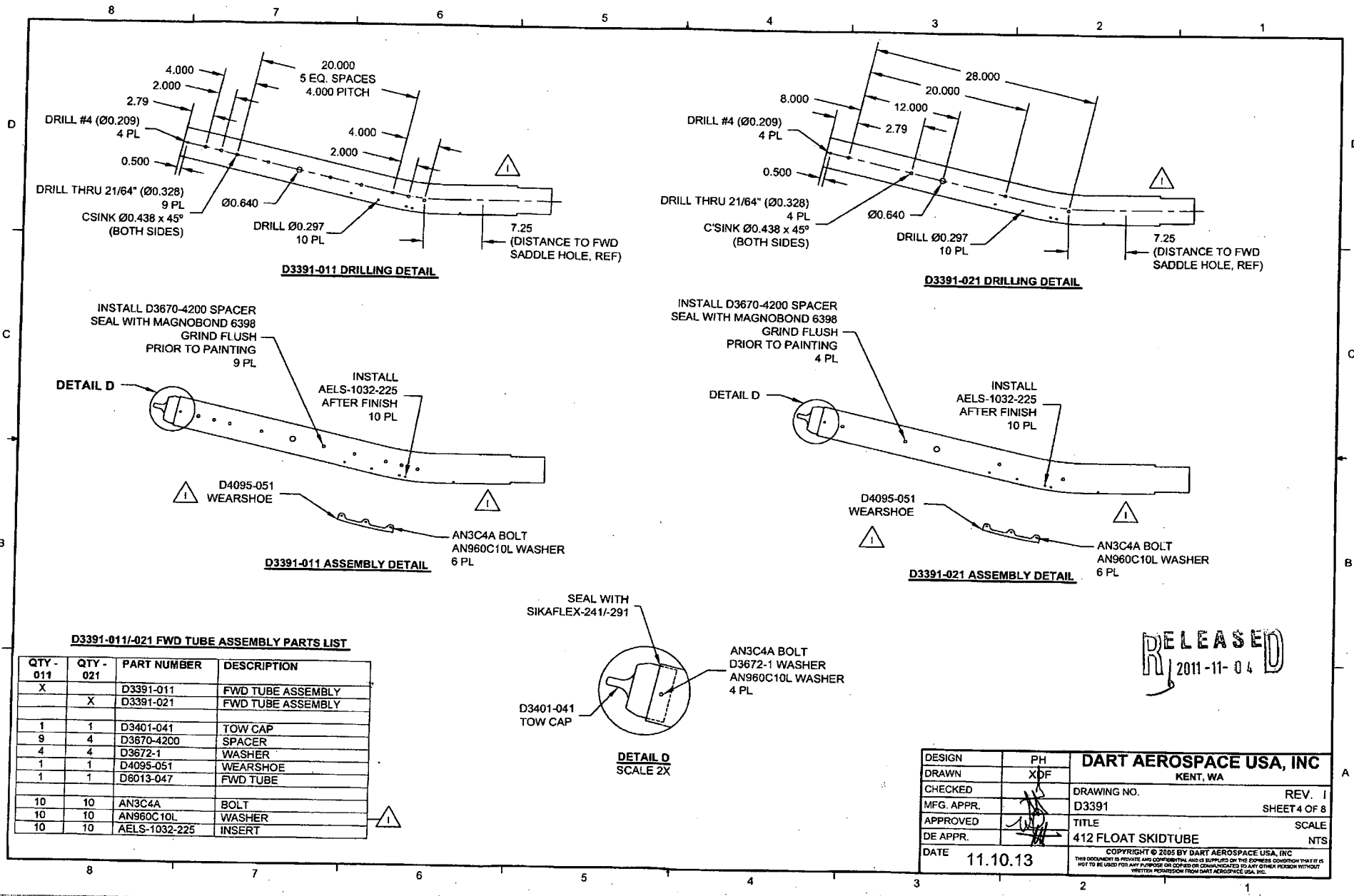
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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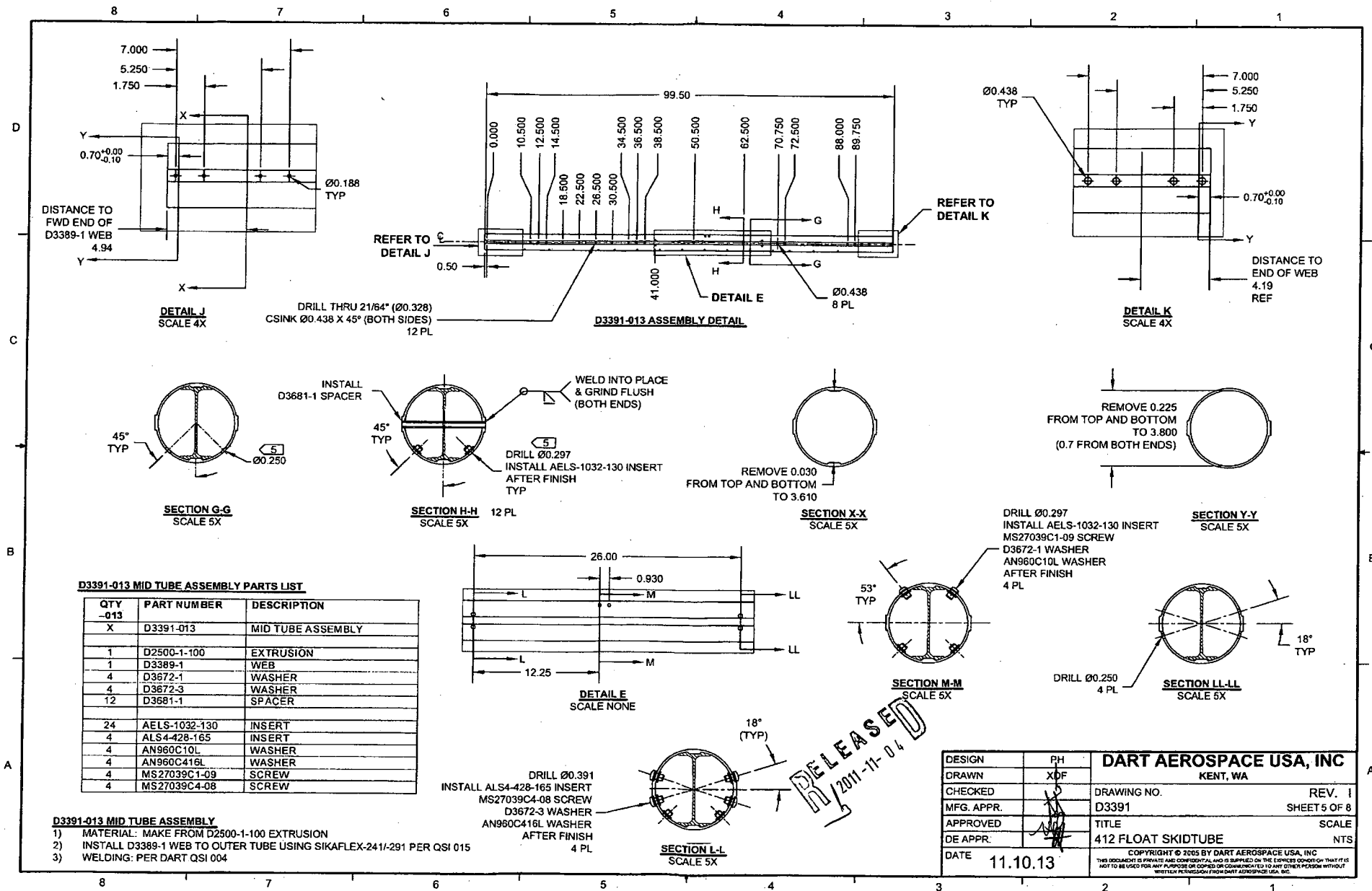
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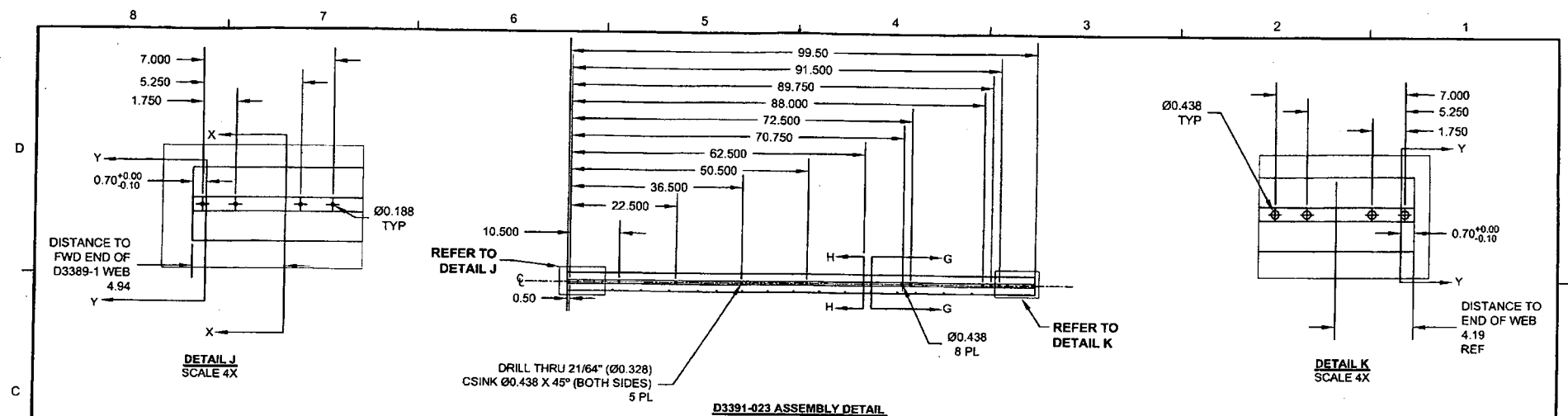
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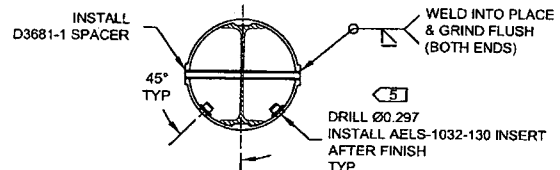
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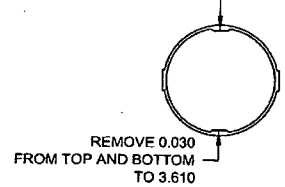
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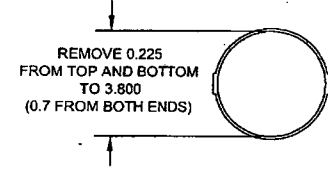
SECTION G-G
SCALE 5X



SECTION H-H
SCALE 5X



SECTION X-X
SCALE 5X



SECTION Y-Y
SCALE 5X

D3391-023 MID TUBE ASSEMBLY PARTS LIST

QTY - 023	PART NUMBER	DESCRIPTION
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

D3391-023 MID TUBE ASSEMBLY

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004

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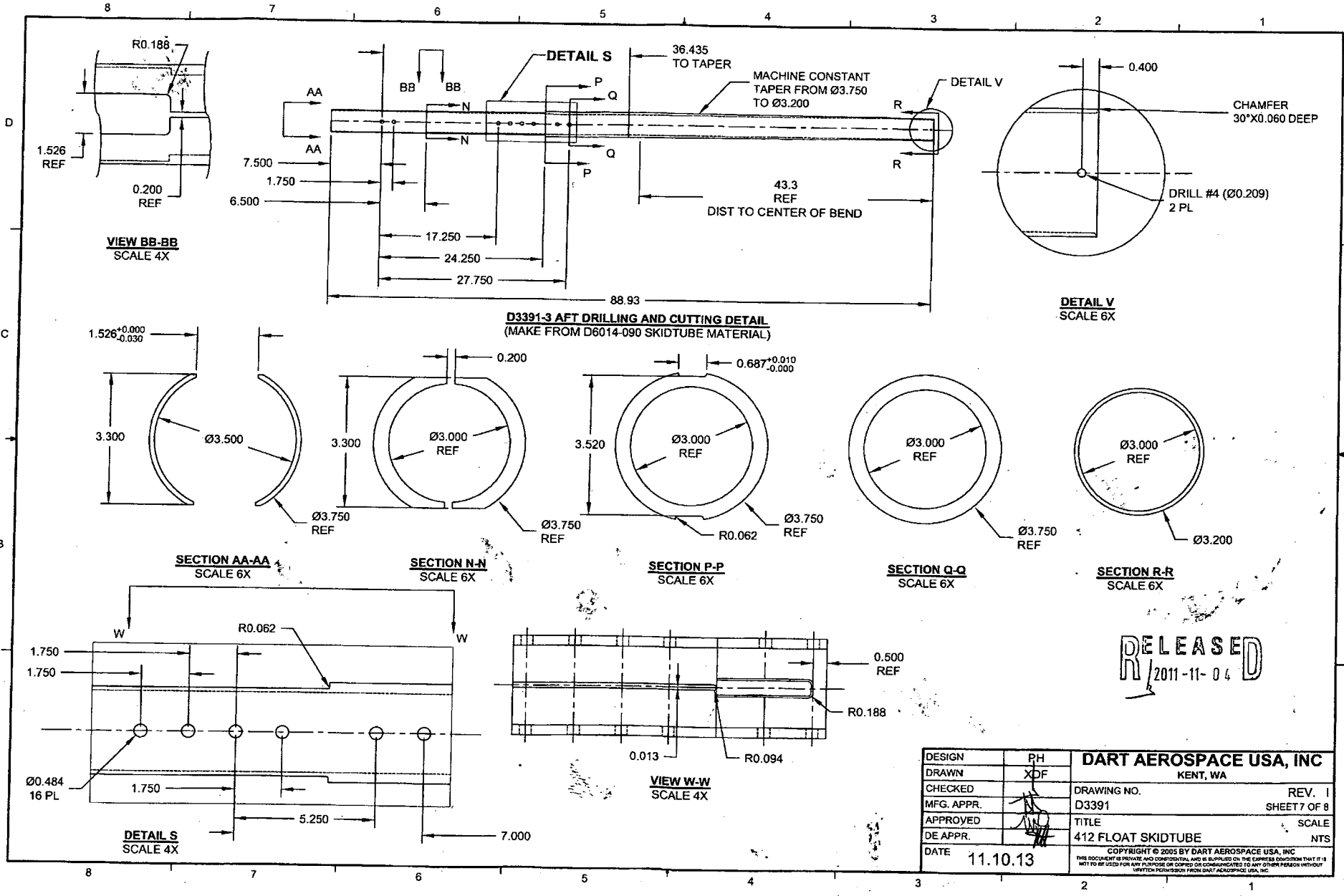
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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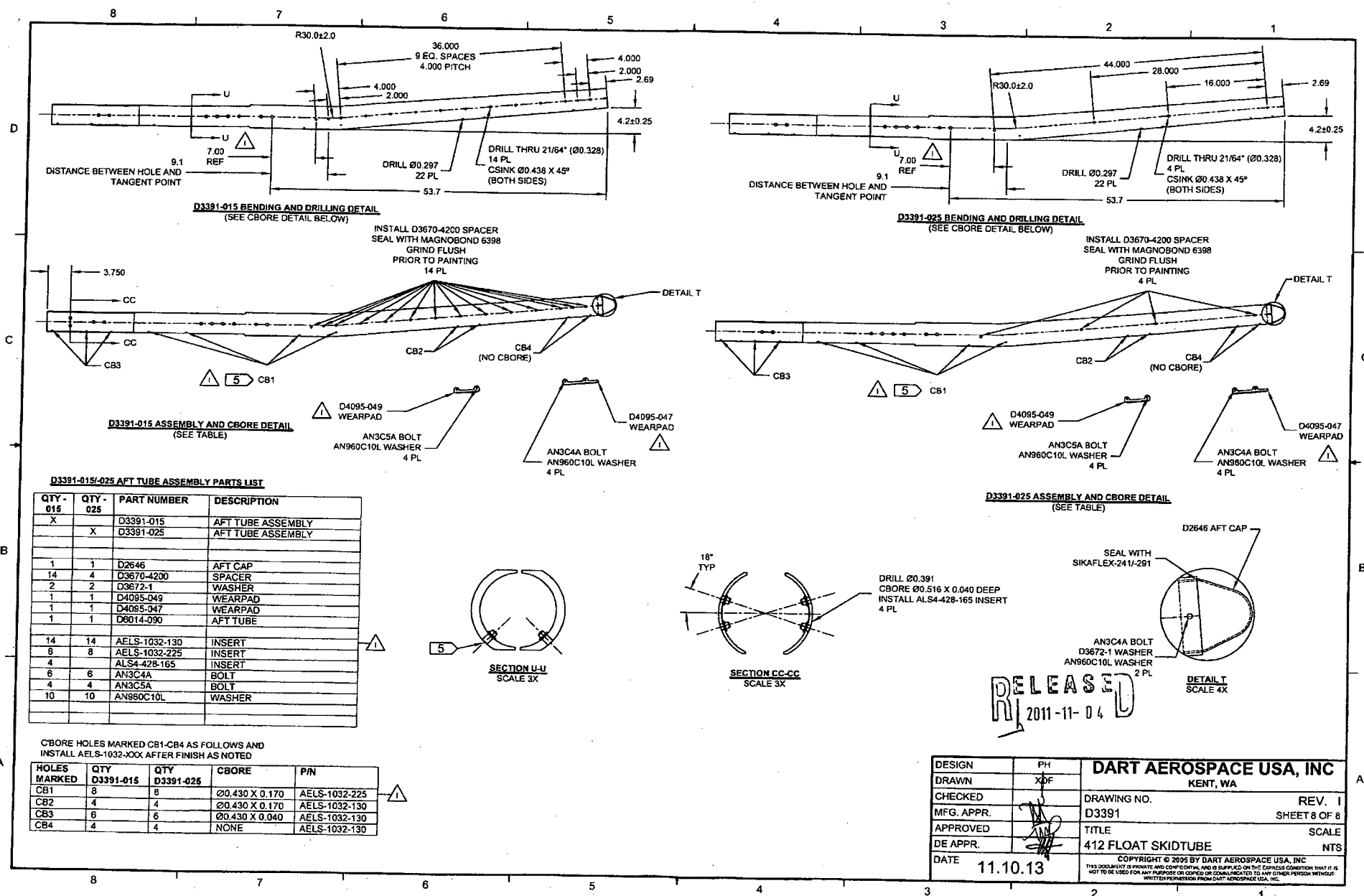
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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D3391-015/-025 AFT TUBE ASSEMBLY PARTS LIST

QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X	X	D3391-015	AFT TUBE ASSEMBLY
		D3391-025	AFT TUBE ASSEMBLY
1	1	D2646	AFT CAP
14	4	D3670-4200	SPACER
2	2	D3672-1	WASHER
1	1	D4095-049	WEARPAD
1	1	D4095-047	WEARPAD
1	1	D6014-090	AFT TUBE
14	14	AELS-1032-130	INSERT
8	8	AELS-1032-225	INSERT
4	4	ALS4-428-165	INSERT
6	6	AN3C4A	BOLT
4	4	AN3C5A	BOLT
10	10	AN960C10L	WASHER

CBORE HOLES MARKED CB1-CB4 AS FOLLOWS AND INSTALL AELS-1032-XXX AFTER FINISH AS NOTED

HOLES MARKED	QTY D3391-015	QTY D3391-025	CBORE	P/N
CB1	8	8	Ø0.430 X 0.170	AELS-1032-225
CB2	4	4	Ø0.430 X 0.170	AELS-1032-130
CB3	6	6	Ø0.430 X 0.040	AELS-1032-130
CB4	4	4	NONE	AELS-1032-130

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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DART AEROSPACE LTD		Work Order: 77375
Description: Float Skidtube (412)		Part Number: D3391-3
Inspection Dwg: D3391	Rev: H	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Lathe Section						
14.000	+/-0.010	14.00	✓		tape	MM.L-02
3.500	+/-0.010	3.497	✓		vern	CNC-08
88.93	+/-0.030	88.925	✓		tape	MM.L-02
Ø3.200	+/-0.010	3.203	✓		vern	CNC-08
88.93	+/-0.030	88.925	✓		tape	MM.L-02
Ø3.750	+/-0.010	3.750	✓		vern	CNC-08
30° x 160" chamfer	+/-0.010	30° x 160	✓		ll	

Measured by: MM.L	Date: 11/12/07
Audited by: CMZ	Date: 11/12/11

HAAS Section						
1.526	+0.000/-0.030	1.570	✓		Vern M1-06	
7.500	+/-0.010	7.500	✓		"	
27.750	+/-0.010	27.750	✓		M-tape M1-04	
31.750	+/-0.010	31.750	✓		"	
35.250	+/-0.010	35.250	✓		"	
3.300	+/-0.010	3.294	✓		Vern M1-06	
0.200	+/-0.010	.200	✓		"	
3.520	+/-0.010	3.520	✓		"	
0.687	+0.010/-0.000	.687	✓		"	
R0.062	+/-0.010	R.062	✓		R-L	
Ø0.484	+0.005/-0.001	Ø.486	✓		Vern M2-06	

Measured by: CMZ	Date: 11/12/11
Audited by: B.A	Date: 11/12/13

Rev	Date	Change	Revised by	Approved
A	06.04.24	New Issue P/O D3391-015/-025	KJ/JLM	
B	06.06.19	Dwg revision update	KJ/JLM	
C	07.04.20	Ø0.208 dimension removed	KJ/JLM	
D	07.09.06	0.400 dimension removed	KJ/JLM	
E	07.11.23	Dwg Rev. updated	KJ/EC/DD	
F	09.04.27	Dimensions updated per Rev H and NCR09-028	KJ/JLM	
G	09.11.16	Dimension 0.200 removed	KJ	
H	11.06.21	Dimension 44.995 removed	KJ	

